AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1. (Original) A wave detection device comprising:

a digital input signal generating means that generates a digital input signal by sampling an input signal;

a first signal output means that outputs a first signal obtained by adding the digital input signal to a predetermined signal;

a second signal output means that outputs a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generating means; and

a frequency domain transform means that obtains the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

2. (Original) The wave detection device according to claim 1 comprising a feedback signal output means that outputs a feedback signal obtained by subtracting a signal obtained by delaying the second signal by the one timing period from a signal obtained by multiplying the second signal by the predetermined coefficient,

wherein the predetermined signal is the feedback signal.

3. (Original) The wave detection device according to claim 1 comprising:

a first feedback signal output means that outputs a first feedback signal obtained by multiplying the first signal by the predetermined coefficient while the one timing period elapses; and

a second feedback signal output means that outputs a second feedback signal obtained by delaying the second signal by the one timing period, and then inverting the sign of the delayed signal,

wherein the predetermined signal is the first feedback signal and the second feedback signal.

4. (Original) The wave detection device according to claim 1 comprising:

a third feedback signal output means that outputs a third feedback signal obtained by multiplying the second signal by the predetermined coefficient; and

a second feedback signal output means that outputs a second feedback signal obtained by delaying the second signal by the one timing period, and then inverting the sign of the delayed signal,

wherein the predetermined signal is the third feedback signal and the second feedback signal.

5. (Original) The wave detection device according to claim 1,

wherein the input signal is a recurrence of a transient response, and a steady-state response occurring subsequent to the transient response of a device under test; and

3

wherein said first signal output means does not output the first signal until the transient response occurs again and then subsides after said frequency domain transform means obtains the first signal.

6. (Original) The wave detection device according to claim 5, wherein the predetermined coefficient is set during a period where the transient response occurs again and then subsides after said frequency domain transform means obtains the first signal.

7. (Original) The wave detection device according to claim 5, wherein said frequency domain transform means set the predetermined integer during a period where the transient response occurs again and then subsides after said frequency domain transform means obtains the first signal.

8. (Original) A wave detection method comprising:

a digital input signal generating step of generating a digital input signal by sampling an input signal;

a first signal output step of outputting a first signal obtained by adding the digital input signal to a predetermined signal;

a second signal output step of outputting a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generating step; and

a frequency domain transform step of obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing period from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

9. (Currently amended) A program of instructions for execution by a ~~the~~ computer to perform a wave detection process of a wave detection device having a digital input signal generating means that generates a digital input signal by sampling an input signal; said wave detection process comprising:

a first signal output step of outputting a first signal obtained by adding the digital input signal to a predetermined signal;

a second signal output step of outputting a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generating step; and

a frequency domain transform step of obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing period from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

10. (Currently amended) A computer-readable medium having a program of instructions for execution by a ~~the~~ computer to perform a wave detection process of a

wave detection device having a digital input signal generating means that generates a digital input signal by sampling an input signal; said wave detection process comprising:

a first signal output step of outputting a first signal obtained by adding the digital input signal to a predetermined signal;

a second signal output step of outputting a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generating step; and

a frequency domain transform step of obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing period from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

11.   (Currently amended)   A program of instructions for execution by the a computer to perform a wave detection process of a wave detection device having a digital input signal generating means that generates a digital input signal by sampling an input signal; a first signal output means that outputs a first signal obtained by adding the digital input signal to a predetermined signal; and a second signal output means that outputs a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generating means, said wave detection process comprising:

6

a frequency domain transform step of obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing period from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

12. (Currently amended) A computer-readable medium having a program of instructions for execution by a ~~the~~ computer to perform a wave detection process of a wave detection device having a digital input signal generating means that generates a digital input signal by sampling an input signal; a first signal output means that outputs a first signal obtained by adding the digital input signal to a predetermined signal; and a second signal output means that outputs a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generating means, said wave detection process comprising:

a frequency domain transform step of obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

13. (New) A wave detection device comprising:

7

a digital input signal generator that generates a digital input signal by sampling an input signal;

an adder that outputs a first signal obtained by adding the digital input signal to a predetermined signal;

a delayer that outputs a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generator; and

a frequency domain transformer that obtains the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

14. (New) The wave detection device according to claim 13 further comprising a feedback signal output section that outputs a feedback signal obtained by subtracting a signal obtained by delaying the second signal by the one timing period from a signal obtained by multiplying the second signal by the predetermined coefficient,

wherein the predetermined signal is the feedback signal.

15. (New) The wave detection device according to claim 13, further comprising:

a first feedback signal output section that outputs a first feedback signal obtained by multiplying the first signal by the predetermined coefficient while the one timing period elapses; and

a second feedback signal output section that outputs a second feedback signal obtained by delaying the second signal by the one timing period, and then inverting the sign of the delayed signal,

wherein the predetermined signal is the first feedback signal and the second feedback signal.

16. (New) The wave detection device according to claim 13 comprising:

a third feedback signal output section that outputs a third feedback signal obtained by multiplying the second signal by the predetermined coefficient; and

a second feedback signal output section that outputs a second feedback signal obtained by delaying the second signal by the one timing period, and then inverting the sign of the delayed signal,

wherein the predetermined signal is the third feedback signal and the second feedback signal.

17. (New) The wave detection device according to claim 13,

wherein the input signal is a recurrence of a transient response, and a steady-state response occurring subsequent to the transient response of a device under test; and

wherein the adder does not output the first signal until the transient response occurs again and then subsides after said frequency domain transformer obtains the first signal.

18. (New) The wave detection device according to claim 17, wherein the predetermined coefficient is set during a period where the transient response occurs again and then subsides after the frequency domain transformer obtains the first signal.

19. (New) The wave detection device according to claim 17, wherein the frequency domain transformer sets the predetermined integer during a period where the transient response occurs again and then subsides after the frequency domain transformer obtains the first signal.

20. (New) A program of instructions for execution by a computer to perform a wave detection process of a wave detection device having a digital input signal generator that generates a digital input signal by sampling an input signal, the wave detection process comprising:

outputting a first signal obtained by adding the digital input signal to a predetermined signal;

outputting a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of the digital input signal generating; and

obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

21. (New) A computer-readable medium having a program of instructions for execution by a computer to perform a wave detection process of a wave detection

device having a digital input signal generator that generates a digital input signal by sampling an input signal, the wave detection process comprising:

outputting a first signal obtained by adding the digital input signal to a predetermined signal;

outputting a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of the digital input signal generating; and

obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

22. (New) A program of instructions for execution by a computer to perform a wave detection process of a wave detection device having a digital input signal generator that generates a digital input signal by sampling an input signal; an adder that outputs a first signal obtained by adding the digital input signal to a predetermined signal; and a delayer that outputs a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generator, the wave detection process comprising:

obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.

23.   (New)   A computer-readable medium having a program of instructions for execution by a computer to perform a wave detection process of a wave detection device having a digital input signal generator that generates a digital input signal by sampling an input signal; an adder that outputs a first signal obtained by adding the digital input signal to a predetermined signal; and a delayer that outputs a second signal obtained by delaying the first signal by one timing period corresponding to one cycle of sampling timing of said digital input signal generator, the wave detection process comprising:

obtaining the first signal and the second signal in timing corresponding to every predetermined integer multiple of the one timing period to obtain data which is the input signal transformed into the frequency domain,

wherein the predetermined signal is a signal obtained by subtracting a signal obtained by delaying the first signal by the two timing periods from a signal obtained by multiplying a signal obtained by delaying the first signal by the one timing period by a predetermined coefficient.